Aviation Training Branch

Information Brief
BGen Post

M-SHARP Update Aviation T&R Based Ordnance Model

**LtCol Pat Riley "Coach"**
TECOM(ATB)
STANDARDS
AUTOMATED TRAINING MANAGEMENT

M-SHARP Historical & Road Ahead

- Oct 2001
  - ATB tasked to
    - "Fix SARA"
    - Create "road ahead"
- Jun 2002
  - SARA update concept
  - M-SHARP vision
- Oct 2003 – May 2004
  - SARA 5.0 fielded
  - M-SHARP Phase I definition
- Dec 2004
  - M-SHARP SOW drafted

- Jun 2005
  - M-SHARP contract
- Oct 2006
  - Initial introduction of M-SHARP Phase I
- Feb 2007 M-SHARP IOC
- Oct 2007 M-SHARP FOC
- FY07 – FYDP
  - Periodic and phased updates

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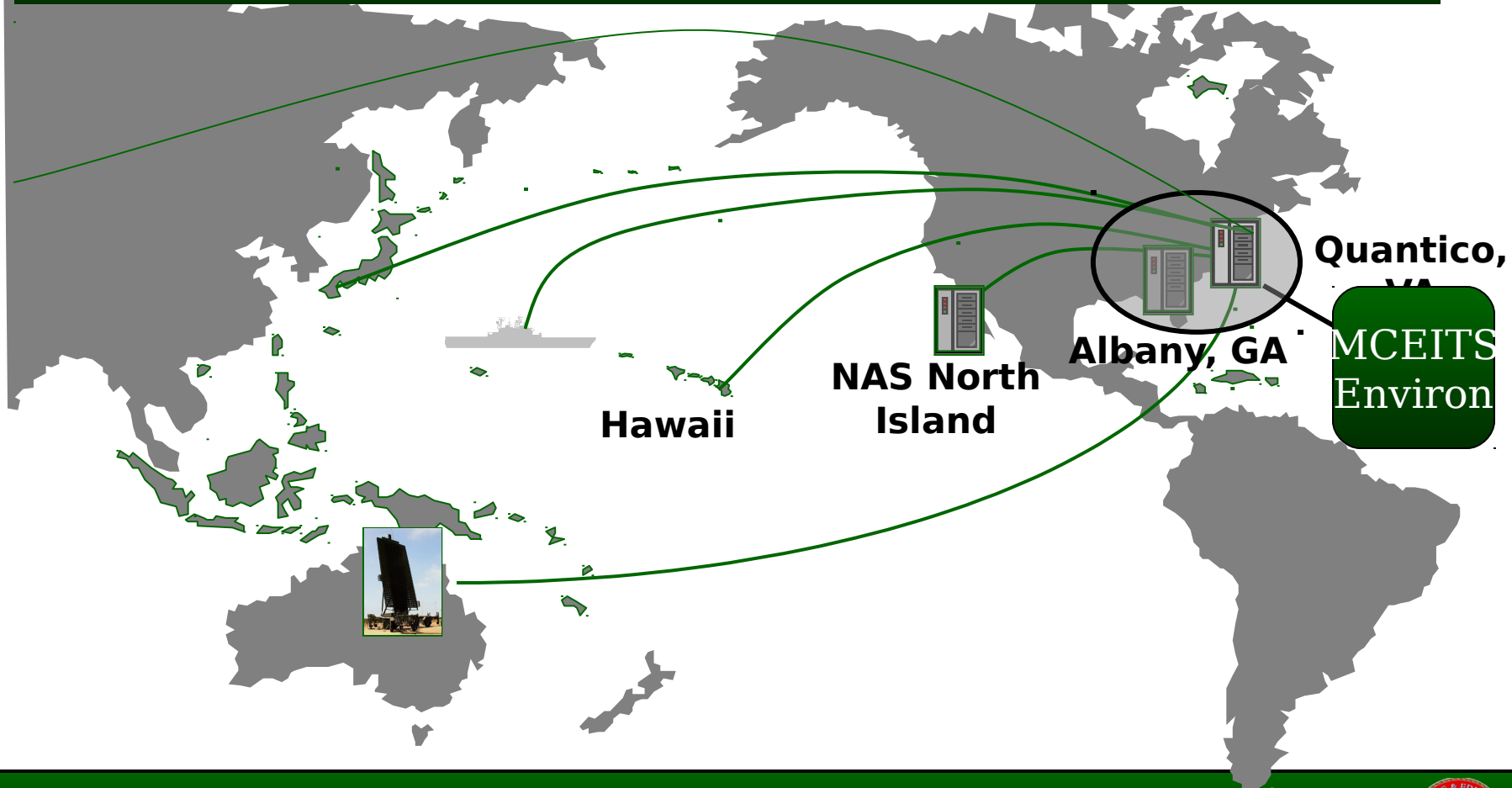Aviation Training Branch
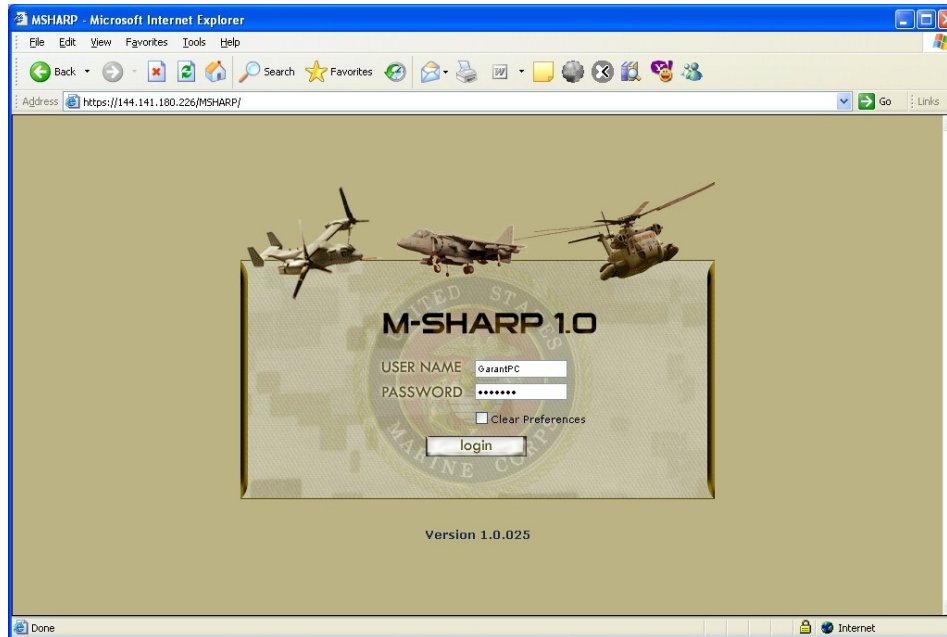
M-SHARP

Marine Corps Sierra Hotel Aviation Readiness Program
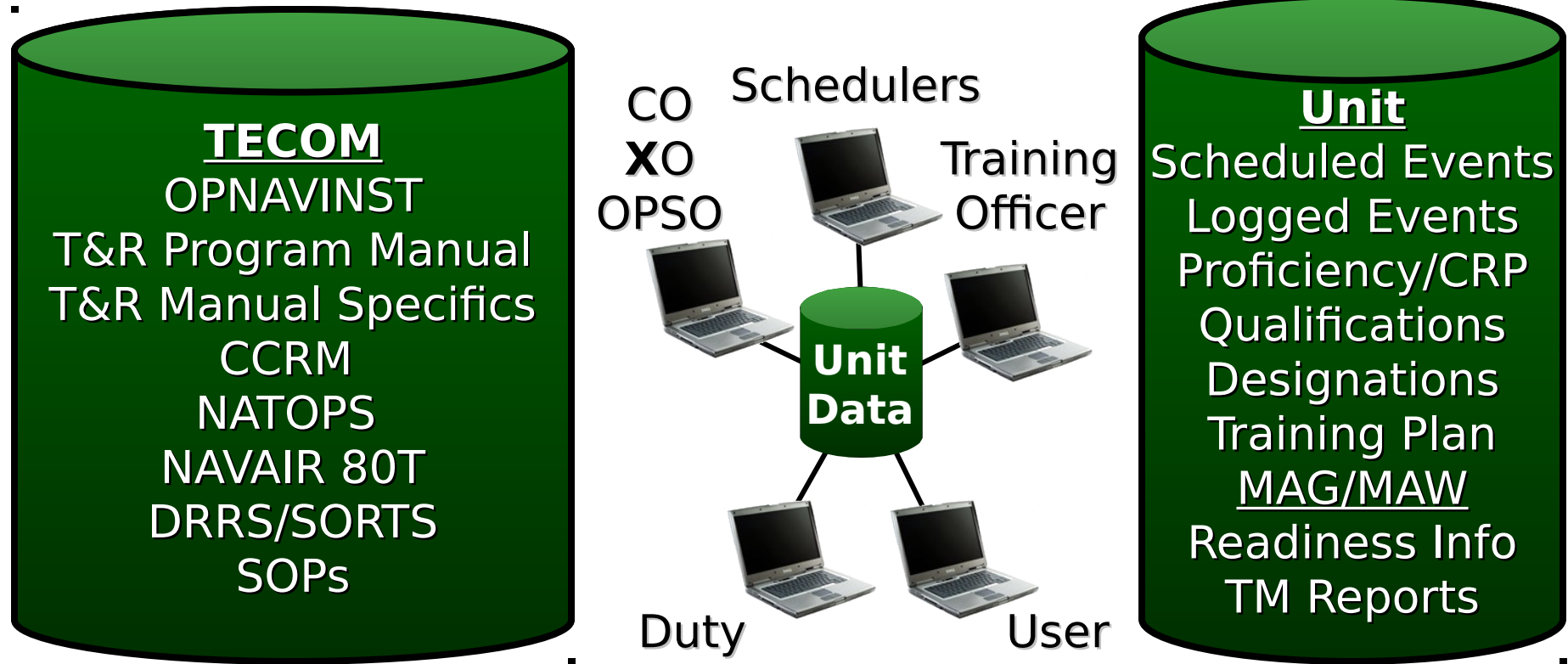- Government-owned, contractor-maintained

Connectivity & Backup

Flying Units, MACG, and MWSS

Quantico, VA

MCEITS Environ

Albany, GA

NAS North Island

Hawaii

Centralized Management

AES	AOS	METOC	TACC	TAOC	MATC	DASC	LAAD	UAV

C-9		MACGs
C-20		MWSGs
F-5		MAGs
UC-12		MAWs
UC-35		TECOM ATB
HH-1		
HH-46		

VMGR (KC-130F/R/T)	VMGR (KC-130J)	VMFA (F/A-18A/C)	VMFA(AW) (F/A-18D)	VMA (AV-8B)	VMAQ (EA-6B)	VMM (MV-22)	HMM (CH-46E)	HMH (CH-53D/E)	HMLA (AH-1W & UH-1N)

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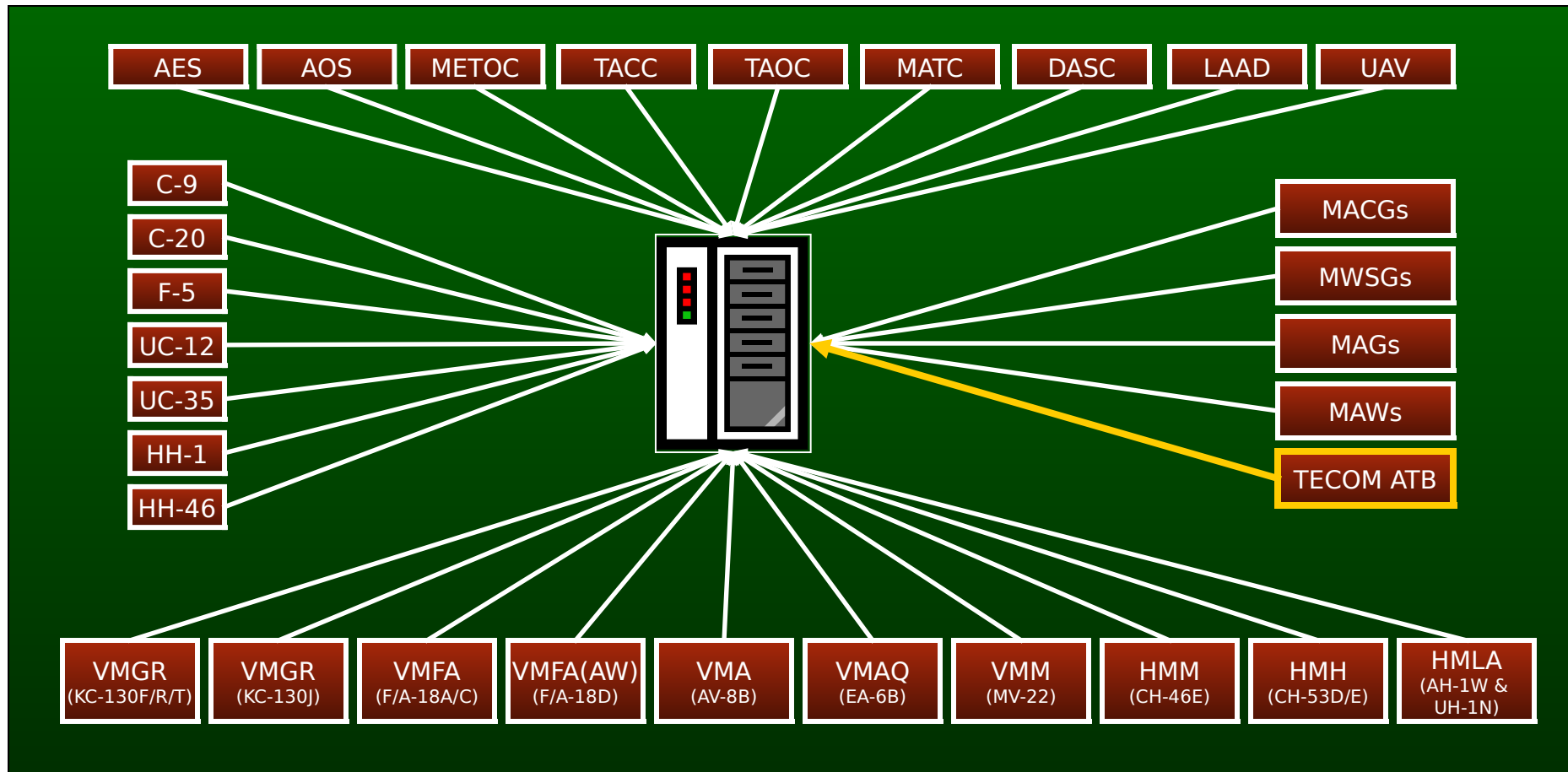
Standardized Method & Structure

TECOM
OPNAVINST
T&R Program Manual
T&R Manual Specifics
CCRM
NATOPS
NAVAIR 80T
DRRS/SORTS
SOPs

CO
XO
OPSO

Schedulers

Training Officer

Unit Data

Duty

User

Unit
Scheduled Events
Logged Events
Proficiency/CRP
Qualifications
Designations
Training Plan
MAG/MAW
Readiness Info
TM Reports

6

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USMC Level Properties

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Aviation Training Branch

Squadron Level Properties

Unit

8

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Automated T&R Builder

notes

Toolbar

- Chapter 1 – Core Competency
  - 100. Unit Core Competency
    - 1. Mission
    - 2. Mission Essential Task List
    - 3. Table of Organization
    - 4. Core Capability Statement
    - 5. METL/Core Skill Matrix
    - 6. Core Model Minimum Requirements
      - a. Unit Core Skill Proficiency Requirements
        - » (1) Events Required to Attain CSP
        - » (2) Events Required to Maintain CSP
        - » (3) Events Required to Attain Core Plus CSP
        - » (4) Events Required to Maintain Core Plus CSP
      - b. Combat Leadership Requirements
    - 7. Instructor Requirements Tables
    - 8. Training Progression Models
  - 101. Ordnance Requirements
  - 10X. [Other Requirements]
- Chapter 2 – <Syllabus_Name> Syllabus
  - 200. Syllabus Core Competency
    - 1. Core Model Minimum Requirements
      - a. Unit Core Skill Proficiency Requirements
        - » (1) Events Required to Attain CSP
        - » (2) Events Required to Maintain CSP
        - » (3) Events Required to Attain Core Plus CSP
        - » (4) Events Required to Maintain Core Plus CSP
      - b. Combat Leadership Requirements
    - Qualifications & Designations Tables
  - 201. POI for <POI_Name> <Syllabus_Name>
  - 20X. [Repeat for each POI in this Syllabus]
  - 220. Ground/Academic Training
  - 230. Event Performance Requirements
  - 231. Core Skill Introduction Training (100-Level)
  - 232. Core Skill Basic Training (200-Level)
  - 233. Core Skill Advanced Training (300-Level)
  - 234. Core Plus Training (400-Level)
  - 240. Instructor Training (500-Level)

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                        CHAPTER 1

                        AH-1W PILOT

100.   MARINE LIGHT-UTILITY ATTACK SQUADRON (HMLA) UNIT CORE COMPETENCY

1.   HMLA Mission.  Support the MAGTF Commander by providing offensive air
  support, utility support, armed escort and airborne supporting arms
  coordination, day or night under all weather conditions during
  expeditionary, joint or combined operations.

2.   AH-1 Mission Essential Task List (METL)

a.   (UJTL TA 1.1.2) Conduct Shipboard Deck helicopter Landing
  Qualifications.
b.   (UJTL TA 1.1.4) Conduct Sea and Air Deployment Operations
  - Maintain the capability to deploy and operate from advanced bases,
  expeditionary airfields, Forward Operating Bases (FOBs), and naval
  shipping.
  - Perform organizational maintenance on assigned aircraft.
c.   (UJTL TA 1.2.1) Conduct Air Assault Operations and Air Assault
  - Provide armed escort for assault helicopters and tiltrotor aircraft.
d.   (UJTL TA 1.2.3) Conduct Amphibious Assault and Raid Operations
  - Provide armed escort for airborne and surface forces.
e.   (UJTL TA 3.2.1) Conduct Fire Support
  - Engage and destroy point armored targets.
  - Provide fire support for forward and rear area forces against point and
  area targets.
f.   (UJTL TA 3.2.2) Conduct Close Air Support
  - Conduct escort of friendly ground forces.
  - Conduct Assault Support Escort.
g.   (UJTL TA 3.2.3) Conduct Interdiction Operations
  - Conduct Armed Reconnaissance.
h.   (UJTL TA 3.2.4) Conduct Joint Suppression of Enemy Air Defenses
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SARA to M-SHARP Transition

| MEF | MARFORs | MCI East/West |

| MAW | | MCAS |

| MAG | MWSG | MACG | | H&HS |

| C-9 | C-20 | F-5 | UC-12 | UC-35 | HH-1 | HH-46 |

| Tactical Flying Squadrons | **MALS** | MWSS | MTACS | MACS | **MWCS** | MASS | LAAD | VMU |

| AES | AOS | METOC | TACC | TAOC | MATC | DASC | LAAD | UAV |

| VMGR (KC-130F/R/T) | VMGR (KC-130J) | VMFA (F/A-18A/C) | VMFA(AW) (F/A-18D) | VMA (AV-8B) | VMAQ (EA-6B) | VMM (MV-22) | HMM (CH-46E) | HMH (CH-53D/E) | HMLA (AH-1W & UH-1N) |

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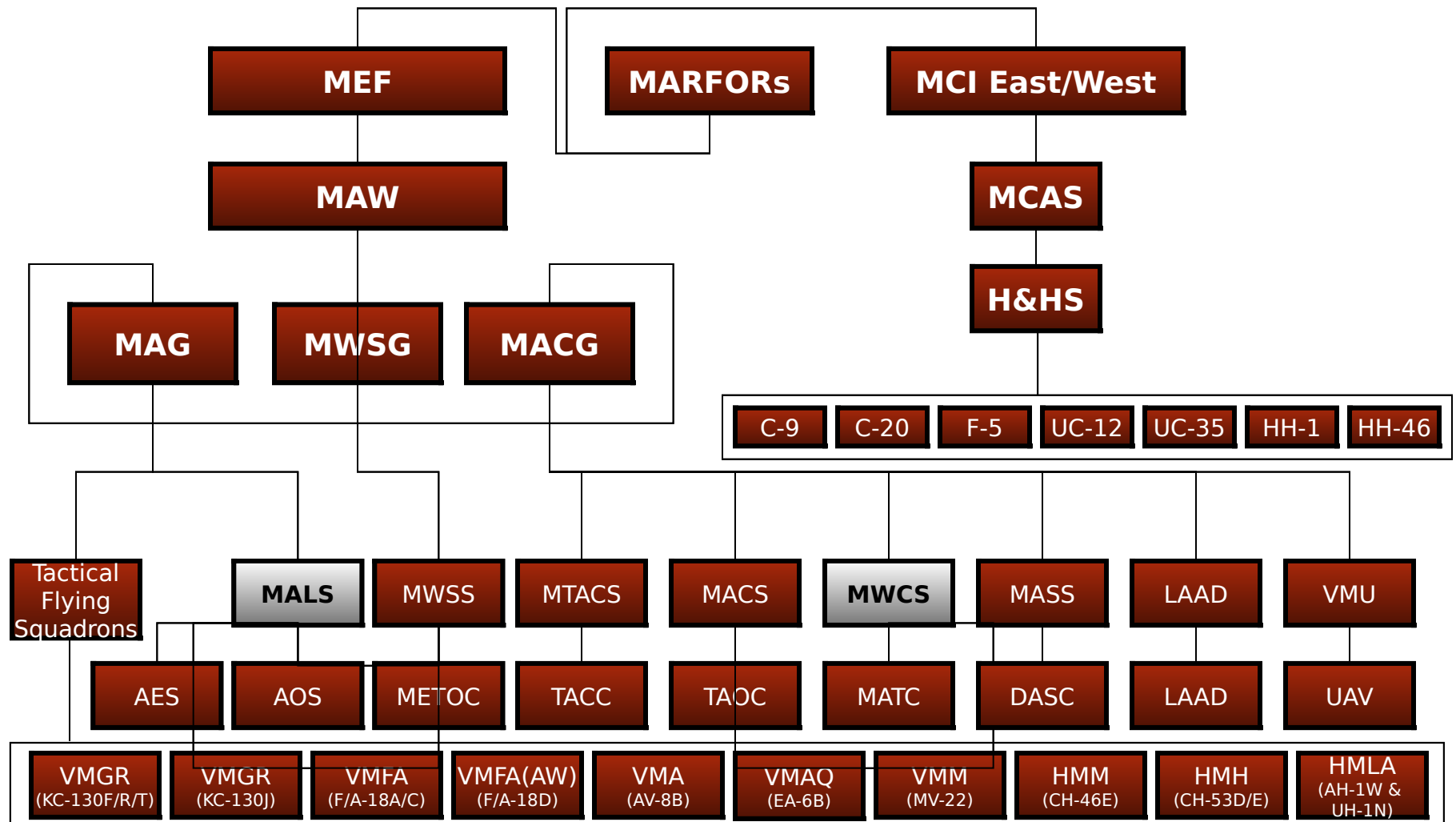
Fielding Assistance & Stay Behind Support

- COA Laydown
  - MCAS Camp Pendleton
  - MCAS Miramar
  - MCAS Yuma
  - MCAS Cherry Point
  - MCAS New River
  - MCAS Beaufort
  - MCAS Iwakuni
  - MCAS Futenma
  - MCAF Kaneohe
- 4th MAW support

- On-site services
  - 5-day fielding per MAG
  - On-site troubleshooting
  - Ongoing training & implementation assist
  - Custom report builds
  - Deployment support…
  - Enhancement input

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M-SHARP Development Schedule

M-SHARP Spending (FY06)

M-SHARP Spending Plan (Cumulative)
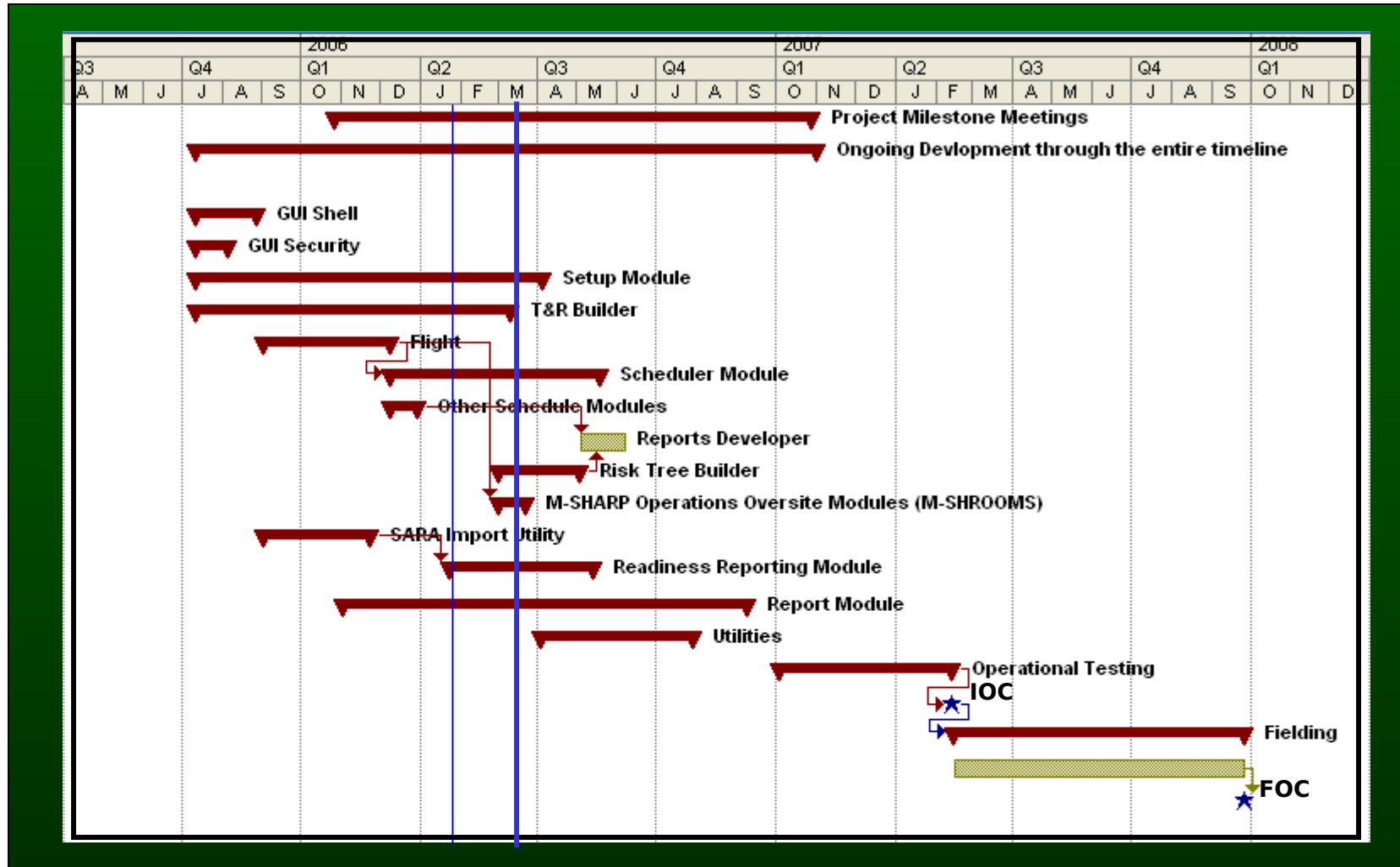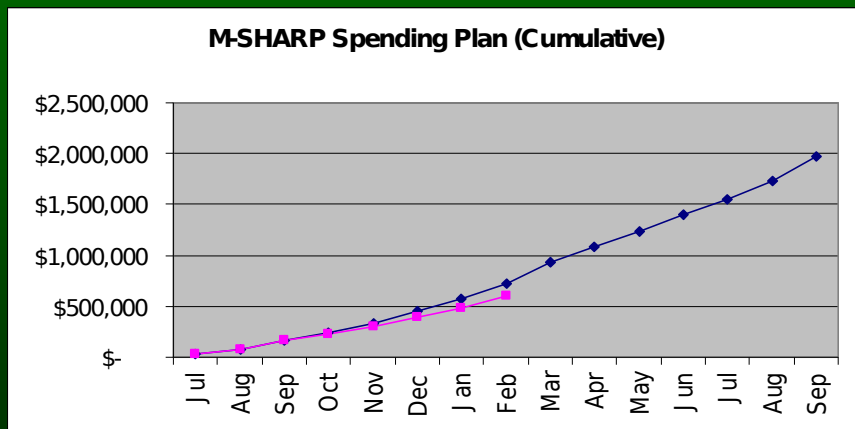
- MARFOR funding O&M/N FY06-FY07
- PMA-205(ATS) FY08-FY13

FY	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13
Est. Cost	2.0 M	2.1	2.20	2.32	2.44	2.56	2.69	2.82

Aviation Training Branch

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BGen Post

M-SHARP Update
Aviation T&R Based
Ordnance Model

LtCol Pat Riley "Coach"
TECOM(ATB)
STANDARDS
AUTOMATED TRAINING
MANAGEMENT

20 Mar
2006

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Background

- 3dMAW P4   Jul 2005
- NCEA Conference   Sep 2005
  - APW/ASL request for T&R-Based Ordnance Model
    - TECOM(ATB) began conceptual work
- Briefed initial concept to APW/ASL   Jan 2006
  - N78 Rich Hull (NNOR/NCEA)
  - Thumbs up from all hands
- Briefed updated concept to APW/ASL 09 Mar 2006
- CG TECOM   17 Mar 2006
- Asst DC/AVN   20 Mar 2006
- AWSE/NCEA Conference   06 Apr 2006

Preservation of Resources

CCRM

SBTP/Flight Hour Model

T&R Resources
Flt Hours
Ordnance
Ranges
Targets
Aggressors
HSTs
Ext Loads
External Support

Ordnance Model

ore Model Training Repo

Ordnance Model Concept

- Flight Hour Model (Val/Ver)
  - Traceability to the T&R
  - Attain/Maintain CSP status; identify complexities
  - Identification of assumptions; admit to imperfections

- Ordnance Model
  - Complexity identification & mitigation (adjust, assume)
  - Maintain flexibility

Ordnance Capture Today

CAS-301   1.3   R 2 FA-18 A/C/D A

Goal. Conduct day CAS using Type 2 and 3 terminal attack control.

Requirement. Conduct two attack under Type 2 terminal attack control and one attack under Type 3 terminal attack control. Emphasize systems management, target PID, PGM employment, threat countertactics and tactical communication.

Performance Standards
Compliance with JCAS TTPs.
Compliance with TAC abort parameters.
Valid delivery IAW USMC TACSOP.
Execution appropriate threat countertactics.
TOT +/- 15 secs.

Prerequisite. SCAS-300.

Ordnance. 1 GBU-31/32/38, 2 GBU-10/12/16, 40 Chaff/20 Flare for ALE-39 equipped aircraft/60 Chaff/60 Flare for ALE-47 equipped aircraft.

Range Requirements. RSTD, TGT, SST, EW, JCAS, TGT-DISP, TGT-MOVE, JDAM.

External Syllabus Support. JTAC or FAC(A).

20

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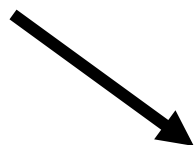
Ordnance Capture Tomorrow (COA 1)

Ordnance Requirement Identification by Event (CAS)

ORDNANCE						
STATUS	PRIMARY ORDNANCE PGM (GPS)	QUANTITY	ALLOWABLE SUBSTITUTES	PRIMARY ORDNANCE PGM (LASER)	QUANTITY	ALLOWABLE SUBSTITUTES
ATTAIN CSP (B)	GBU-31	1	GBU-38/32	GBU-16	2	GBU-10/12
ATTAIN CSP (R)	GBU-32	1	GBU-31/38	GBU-10	2	GBU-12/16
MAINTAIN	GBU-38	1	GBU-31/32	GBU-12	2	GBU-10/16
EXPENDABLES						
STATUS	ALE-39 A/C		ALE-47 A/C		NOTES	
BASIC	CHAFF/FLARES	40/20	CHAFF/FLARES	60/60		
REFRESHER	CHAFF/FLARES	40/20	CHAFF/FLARES	60/60	CAS-301 may be completed without the use of expendables.	
MAINTAIN	CHAFF/FLARES	40/20	CHAFF/FLARES	60/60		

GBU-10	2000# Laser Guided
GBU-12	500# Laser Guided
GBU-16	1000# Laser Guided
GBU-31	1000# JDAM
GBU-32	2000# JDAM
GBU-38	500# JDAM

Core Skills Ordnance (AH-1W)

AH-1W TACTICAL SQUADRON AIRCREW INPUT		AH-1W TACTICAL SQUADRON INSTRUCTOR DESIGNATION INPUT				AH-1W TACTICAL SQUADRON COMBAT	
Basic	10	BIP	10	FAC(A) I	4	AHC	18
Refresher	4	TERF I	10	DACM I	3	SEC LDR	9
Maintain	30 44	WTO	10			DIV LDR	5
CSP(-)	14	NSI	7			FLT LDR	4
		WTI	3			AMC	4

CORE COMPETENCY RESOURCE MODEL
HMLA (AH-1W) TACTICAL SQUADRON
ORDNANCE REQUIREMENT
TO ATTAIN AND MAINTAIN
A T-2 LEVEL OF READINESS

CORE SKILL BASIC AND ADVANCED TRAINING (200 & 300 SERIES)

CORE SKILL	CORE SKILL BASIC (200 SERIES)					CORE SKILL ADVANCED (300 SERIES)				ORDNANCE REQUIREMENTS // LEVEL OF READINESS			ORDNANCE COST // LEVEL OF READINESS		
	TERF	REC	SWD	ESC	OAS	EW	ANSQ	OAS	FAC	T-2	T-1	T-3	T-2	T-1	T-3
NONE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
20 mm	0.0	0.0	22,800.0	0.0	18,125.0	0.0	30,600.0	44,800.0	0.0	116,325.0	141,251.8	91,398.2	$386,199.00	$468,955.93	$303,442.
2.75"	0.0	0.0	718.2	0.0	304.5	0.0	642.6	1,012.5	585.3	3,263.7	3,963.1	2,564.3	$979,110.00	$1,188,919.29	$769,300.
5"	0.0	0.0	8.0	0.0	0.0	0.0	40.8	35.0	0.0	83.8	101.8	65.8	$33,520.00	$40,702.86	$26,337.
TOW PLUG	0.0	0.0	108.0	27.0	29.0	5.0	5.0	168.0	0.0	342.0	415.3	268.7			
C-HELLFIRE	0.0	0.0	95.3	81.0	29.0	5.0	5.0	172.8	0.0	388.1	471.2	304.9			
C-AIM-9	0.0	0.0	0.0	108.0	0.0	0.0	10.0	0.0	0.0	118.0	143.3	92.7			
CHAFF	0.0	0.0	855.0	0.0	435.0	150.0	0.0	2,595.0	0.0	4,035.0	4,899.6	3,170.4	$9,038.40	$10,975.20	$7,101.
FLARES	0.0	0.0	855.0	0.0	435.0	50.0	0.0	4,725.0	0.0	6,065.0	7,364.6	4,765.4	$31,719.95	$38,517.08	$24,922.
LUU-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0	17.5	21.3	13.8	$7,000.00	$8,500.00	$5,500.
TOW	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	12.1	7.3	$1,800,000.00	$2,185,714.29	$1,414,285.
HELLFIRE	0.0	0.0	12.8	0.0	0.0	0.0	0.0	10.2	0.0	23.0	27.9	18.0	$3,774,930.75	$4,583,844.48	$2,366,017.
TACTS POD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
												TOTAL	$7,021,518.10	$8,526,129.12	$5,516,907.

- Core Skills Basic (200)
- Core Skills Advanced (300)
- Core Plus (400)
- Instructor Training(500)
- Requirements, Qualifications, Designations (600)

T&R Ordnance Totals

AH-1W CCRM ORDNANCE

COST (Thousands)

$10,000
$9,500
$9,000
$8,500
$8,000
$7,500
$7,000
$6,500
$6,000
$5,500
$5,000

39 40 41 42 43 44 45 46 47 48

AIRCREW MANNING

Legend: —▲— T-1 —▲— T-2 —▲— T-3
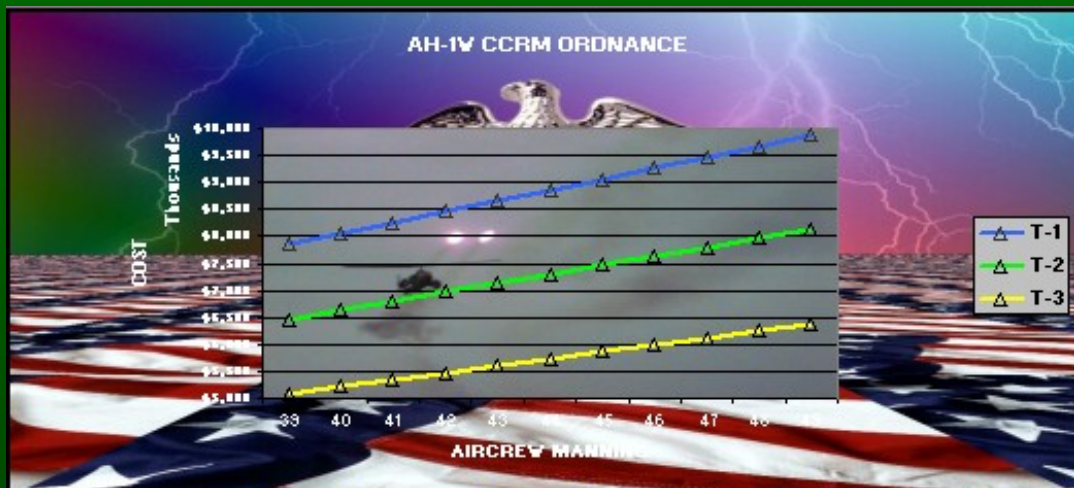
CORE MODEL MINIMUM REQUIREMENTS
AH-1W PORTION OF A HMLA SQUADRON
18 AH-1W AIRCRAFT   44 PILOTS
<u>CORE SKILL REQUIRED AIRCREW</u>
32 TERF
32 REC
32 SWD
28 ESC
24 OAS
24 EW
24 ANSQ
8   FAC
<u>CORE PLUS (+) REQUIRED AIRCREW</u>
0   OAS
12 RW DACM
12 FW DACM
32 NBC
24 FCLP
24 CQ

CORE SKILL		BASIC & ADVANCED 200 & 300	CORE PLUS 400	INST 500	COMBAT LDRSHIP 600	TOTAL (NUMBER) T-2	TOTAL (COST) T-2	TOTAL (NUMBER) T-1	TOTAL (COST) T-1	TOTAL (NUMBER) T-3	TOTAL (COST) T-3	HMLA SQUADRON (AH ONLY) AH-1W T&R MCO 3500.48A dtd 20 DEC 04
	NONE	0.0	0.0	0.0	0.0	0.0		0.0		0.0		CMMR (CORE MODEL MINIMUM REQUIREMENTS)
	20 mm	116,325.0	7,700.0	10,875.0	3,850.0	138,750.0	$460,650.00	168,482.1	$559,360.71	109,017.9	$361,939.29	
	2.75"	3,263.7	151.2	327.0	98.0	3,839.9	$1,151,970.00	4,662.7	$1,398,820.71	3,017.1	$905,119.29	18 AH-1W 44
	5"	83.8	24.5	0.0	0.0	108.3	$43,320.00	131.5	$52,602.86	85.1	$34,037.14	PILOTS
ORDNANCE	TOW PLUG	342.0	56.0	27.0	14.0	439.0		533.1		344.9		18 AHC
	C-HELLFIRE	388.1	39.0	15.0	14.0	456.1		553.8		358.3		9 SEC LDR
	C-AIM-9	118.0	38.0	22.0	14.0	192.0		233.1		150.9		6 DIV LDR
	CHAFF	4,035.0	930.0	547.5	210.0	5,722.5	$12,818.40	6,948.8	$15,565.20	4,496.3	$10,071.60	4 FLT LDR
	FLARES	6,065.0	1,755.0	915.0	210.0	8,945.0	$46,782.35	10,861.8	$56,807.14	7,028.2	$36,757.56	4 AMC
	LUU-2	17.5	0.0	0.0	0.0	17.5	$7,000.00	21.3	$8,500.00	13.8	$5,500.00	10 BIP
	TOW	10.0	0.0	0.0	0.0	10.0	#########	12.1	$2,185,714.29	7.9	$1,414,285.71	10 TERF I
	HELLFIRE	23.0	0.0	0.0	0.0	23.0	$3,774,930.75	27.9	$4,583,844.48	18.0	$2,966,017.02	10 WTI
	TACTS POD	0.0	31.0	12.0	0.0	43.0		52.2		33.8		10 NSII
TOTAL COST RELATIONSHIP TO READINESS LEVEL PER SQUADRON							$7,297,471.50		$8,861,215.39		$5,733,727.61	7 NSII

Microsoft Excel Worksheet

Recommendations

- TECOM(ATB) refine concept April 2006
- T&R Ordnance table standardization mtg May 2006
  - Present refined concept - T&R adjustment policy & model
  - Stakeholder participation
    - MARFORs, Wings, APW, ASL, Syllabus Sponsor, Ranges
- T&R Program Manual update July 2006
  - Ordnance table standardization policy
- Community "Ordnance Model update"
  - Ordnance table update--identify ordnance by event iaw standard methodology. Estimate FW (3-days); RW (3-days)

CCRM Development & Sustainment

- Cost estimate
  - 2 man-years for the next 4 yrs to include fielding & instruction

- Task description
  - Requirements development for T/M/S/ Resource matrix
    - Include complexity identification and handling, scheduling flexibility
    - Determine mandatory requirements; allowable ordnance substitutes
    - FRS, Post FRS
  - Participate in detail changes to Program Manual for model sustainment
  - Team with INNOVASI for M-SHARP CCRM incorporation
  - Stakeholder liaison
  - Sustain through T&R update processes

Aviation Training Branch

Information Brief
Back-ups

M-SHARP Update
Aviation T&R Based Ordnance Model

LtCol Pat Riley "Coach"
TECOM(ATB)
STANDARDS
AUTOMATED TRAINING MANAGEMENT

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Fielding Concept to Detailed Planning

	Task Name	# Units	Parent Command	Duration	Start	2007 Aug Sep Oct Nov Dec Jan Feb Mar Apr May
	⊞ Yuma			5 days	Mon 10/2/06	
	⊟ Cherry Point			5 days	Thu 3/1/07	
	2MAW HQ			5 days	Thu 3/1/07	
	MCI East HQ			5 days	Thu 3/1/07	
	MAG-14 HQ			5 days	Thu 3/1/07	
	MACG-28 HQ			5 days	Thu 3/1/07	
	MWSG-27 HQ			5 days	Thu 3/1/07	
	VMAQ-1		MAG-14	5 days	Thu 3/1/07	
	VMAQ-2		MAG-14	5 days	Thu 3/1/07	
	VMAQ-3		MAG-14	5 days	Thu 3/1/07	
	VMAQ-4		MAG-14	5 days	Thu 3/1/07	
	VMA-231		MAG-14	5 days	Thu 3/1/07	
	VMA-223		MAG-14	5 days	Thu 3/1/07	
	VMA-542		MAG-14	5 days	Thu 3/1/07	
	VMGR-252		MAG-14	5 days	Thu 3/1/07	
	VMGRT-253		MAG-14	5 days	Thu 3/1/07	
	VMAT-203		MAG-14	5 days	Thu 3/1/07	
	VMU-2		MACG-28	5 days	Thu 3/1/07	
	MTACS-28		MACG-28	5 days	Thu 3/1/07	
	MACS-2		MACG-28	5 days	Thu 3/1/07	
	MASS-1		MACG-28	5 days	Thu 3/1/07	
	MWCS-28		MACG-28	5 days	Thu 3/1/07	
	2D LAAD BN		MACG-28	5 days	Thu 3/1/07	
	VMR-1		MCI	5 days	Thu 3/1/07	
	MWSS-274		MWSG-27	5 days	Thu 3/1/07	
	⊞ New River			5 days	Thu 3/1/07	

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COA 1 Ordnance Roll-up Method

ORDNANCE	QUANTITY	% OF TIME UTILIZED	REFLY INTERVAL	ANNUAL ALLOWANCE PER EVENT [Quantity x % x Refly Interval]	NUMBER OF AIRCREW	UNIT ANNUAL ORDNANCE REQUIREMENT FOR EVENT [Annual Allowance x Num of Aircrew]	UNIT ANNUAL ORDNANCE REQUIREMENT FOR EVENT
GBU-31	1	20%		0.4		7.6	7.6
GBU-32	1	15%		0.3		5.7	5.7
GBU-38	1	65%		1.3		24.7	24.7
GBU-16	2	20%		0.8		15.2	15.2
GBU-10	2	15%		0.6		11.4	11.4
GBU-12	2	65%	2	2.6	19	49.4	49.4
CHAFF	40	10%		8		152	
CHAFF	60	30%		36		684	836
CHAFF	0	60%		0		0	
FLARES	20	10%		4		76	
FLARES	60	30%		36		684	760
FLARES	0	60%		0		0	

Aviation Training Branch

Non-standardized Ordnance Identification

- F/A-18
  - CAS 250
  - 4 MK-82, 250 rds of 20 mm, 10 chaff, and 20 flares.
- AV-8B
  - AS-235
  - Free fall ordnance
- AH-1W
  - DESG-659
  - 300 rounds 20mm, 7 x 2.75 inch rockets, 1 TOW plug, 1 captive HELLFIRE, 1 captive AIM-9, 20 chaff and 20 flares.

Aviation Training Branch

F/A-18 Ordnance Table

160. EXPENDABLE ORDNANCE REQUIREMENTS (MCO 3500.46)

1. General. Ordnance requirements are developed on a per aircrew basis as outlined in OPNAVNOTE 8010.

   a. Support sortie ordnance requirements are not included in this table.

   b. The required ordnance in this table is based on a single aircrew attaining initial competency in every event in the 200, 300, 400, and 500 Levels. <u>It does not reflect maintenance of proficiency</u> in accordance with the refly interval.

   c. Once initial competency has been attained in an event with the required ordnance (per the sortie description), inert ordnance may be substituted for live ordnance.

ORDNANCE	200	300	400	500	TOTAL
BDU-48	6				66
MK-76	84	18	12		114
BDU-45	4	8			12
MK-83 (INERT)		4			4

Aviation Training Branch

AV-8B Ordnance Table

160. ORDNANCE REQUIREMENTS. Annual ordnance requirements are developed on a "per crew" basis per OPNAVNOTE 8010. However, the following paragraphs also delineate the minimum level of ordnance support necessary to ensure that a notional squadron can <u>attain and maintain the required level of core skill proficiency</u> for its pilots.

ORDNANCE	B/T	R	Sqdn Total
25 mm	1200	300	12000
Mk-76	96	36	1220
Mk-82	36	18	460
BDU-45	36	6	460
Mk-83	6	4	80
Mk-83(I)	6	24	80
Mk-20/CBU-99/100	4	4	50
Mk-77	4	4	50

Note: VMA ordnance requirements are based upon predicted input rates for both basic and refresher pilots, plus core skill sustainment for remaining second-tour pilots. Squadron Totals reflected in this chart are computed from methodologies contained in spread sheets maintained by the MAWTS-1 and are not listed here.

Aviation Training Branch

AH-1W Ordnance Table

- **160. ORDNANCE REQUIREMENTS. Annual ordnance requirements are developed on a "per crew" basis per OPNAVNOTE 8010.**
  - **Additional ordnance requirements such as initial TOW and HELLFIRE qualification, illumination, expendables and WP for FAC(A) target marking are specified for certain events.**
- **NOTES**: Annual ordnance requirements to <u>maintain aircrew proficiency</u> <u>derived from MAINTAIN table and refly interval.</u>

ANNUAL SQUADRON REQUIREMENTS				
	INITIAL CREW x 8	REFRESHER CREW x 7	PROFICIENT CREW x 7	ANNUAL SQUADRON TOTAL
2.75" RKTS – HE/Inert	944	686	770	2400
2.75" RKTS – WP/RP	336	294	98	728
2.75" RKTS – ILLUM	112	0	0	112
5" RKTS – HE/Inert	192	0	0	192
20MM HEI/SAPHEI	14,400	11,200	10,500	36,100
20MM TPT	33,600	26,600	24,500	84,700
TOW	16	14	7	37
HELLFIRE	16	14	7	37
CHAFF	1760	2100	1400	5260
FLARES	7360	4480	2520	14360

Aviation Training Branch

Range Requirements

CORE SKILL		CORE SKILL BASIC (200 LEVEL)							CORE SKILL ADVANCED (300 LEVEL)						T-2
		FAM	AAR	AS	NS	AA	LAT	CAS	CAS	AR	SCAR	AAW	SEAD	AI	T-2
MDA		120													120
SUA		104													104
AAR			40												40
MDA				80											80
URBN TRG				80											80
COMPLEX				80											80
RSTD				578	23			46	49	86	23			52	857
RKD RNG				498	23										521
STRAFE				480											480
HVY INERT				406											406
EXP				384		286			3	86					759
LSR				12						86	23			92	213
IR TGT				12											12
RDR TGT				12											12
LGB				58	3										61
TGT				80	3			46	49	86				92	356
JDAM				40					49					46	135
MOA					43								20		63
MACH 1+					3	83						192			278
EXP					23							192			215
AA						286						192		92	570
TACTS						83						192	20	92	387
LAT							43								43
SST								46	49	86	23			92	296
JCAS								46	49						95
TGT-MOVE								46	49	86	23				204
TGT-DISP								46	49	86	23			92	296
EW									49	86	23			92	250
HE										86	23				109
HI FI EW													20		20
ARM													20		20

Aviation Training Branch

Ordnance by Event & Stage

STAGE	TRAINING CODE	T&R CODE DESCRIPTION	REFLY	CONDITIONS	BASIC	REFRESHER	MAINTAIN	ORDNANCE TYPE	ORDNANCE QUANTITY	PERCENTAGE	BASIC	REFRESHER	MAINTAIN	CSP(-)	TOTAL ORD REQ	ORDNANCE	T-2	T-1	T-3
OAS	323	RS OAS CAS	180	A	2	2	2	20 mm	300	50%	3,000.0	1,200.0	9,000.0	2,100.0	15,300.0	20 mm	20,400.0	24,771.4	16,028.6
								20 mm	100	50%	1,000.0	400.0	3,000.0	700.0	5,100.0				
								2.75"	7	90%	126.0	50.4	378.0	88.2	642.6	2.75"	642.6	780.3	504.9
								2.75"	0	10%	0.0	0.0	0.0	0.0	0.0				
								TOW PLUG	1	50%	10.0	4.0	30.0	7.0	51.0	TOW PLUG	51.0	61.9	40.1
								C-HELLFIRE	1	50%	10.0	4.0	30.0	7.0	51.0	C-HELLFIRE	51.0	61.9	40.1
								Chaff	20	75%	300.0	120.0	900.0	210.0	1,530.0	CHAFF	1,530.0	1,857.9	1,202.1
								Chaff	0	25%	0.0	0.0	0.0	0.0	0.0				
								Flares	40	75%	600.0	240.0	1,800.0	420.0	3,060.0	FLARES	3,060.0	3,715.7	2,404.3
								Flares	0	25%	0.0	0.0	0.0	0.0	0.0				

AH-1W T&R Event OAS 323

	T-2	T-1	T-3
20 mm	44,800.0	54,400.0	35,200.0
2.75"	1,012.5	1,229.5	795.5
5"	35.0	42.5	27.5
LUU-2	17.5	21.3	13.8
C-HELLFIRE	172.8	209.8	135.8
TOW PLUG	168.0	204.0	132.0
HELLFIRE	10.2	12.4	8.0
CHAFF	2,595.0	3,151.1	2,038.9
FLARES	4,725.0	5,737.5	3,712.5

Aviation Training Branch